



PATENT APPLICATION  
Docket No. 1482-132

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Barrie Gilbert

Serial No. 09/545,691 Examiner: Philip Sobutka

Filed: April 7, 2000 Group Art Unit: 2684

For: RF MIXER WITH INDUCTIVE DEGENERATION

Date: March 14, 2005

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Commissioner for Patents  
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Alexandria, VA 22313-1450

**TRANSMITTAL OF REPLY BRIEF**

This Reply Brief is responsive to the Examiner's Answer mailed on January 13, 2005.

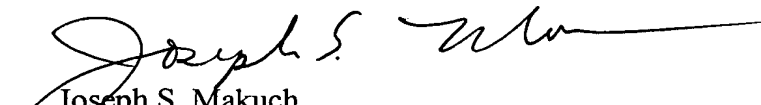
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Customer No. 20575

Respectfully submitted,

MARGER JOHNSON & McCOLLOM, P.C.

  
Joseph S. Makuch  
Reg. No. 39,286

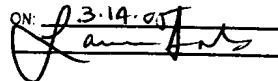
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1030 SW Morrison Street  
Portland, OR 97205  
(503) 222-3613

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**REPLY BRIEF**

This Reply Brief is responsive to the Examiner's Answer dated January 13, 2005.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,789,799 to Voinigescu et al. ("Voinigescu"), in view of U.S. Patent No. 5,307,512 to Mitzlaff ("Mitzlaff").

The Examiner's overbroad interpretation of the claim language is unreasonable and contrary to the evidence.

Claim 15 recites an amplifier cell having first and second class AB input stages arranged in a certain manner to respond to first and second input signals. In the Appeal Brief, Applicant set forth carefully supported arguments explaining why the structure identified by the Examiner in the Voinigescu reference could not be considered an "input stage", and why it was not arranged as recited in claim 15.

In the Answer, the Examiner has responded by proposing an unreasonably broad interpretation of the claim language that is not supported by the evidentiary record. The Examiner begins by stating the axiom that, during prosecution, claims are given their broadest reasonable interpretation. But then, with no evidentiary support, the Examiner states that a reasonable interpretation of "stage" is simply "an identified subset of a larger circuit."

No dictionary definition is provided, and the Examiner is unable to point to any reference that supports this interpretation. The Examiner then notes that the structure identified as an “input stage” in Voinigescu responds to inputs (RF and LO). In essence, the Examiner is arguing that *anything* that responds *in any way* to an input is an “input stage” as used in claim 15.

This overbroad interpretation does not withstand scrutiny in view of the evidentiary record in this case. As set forth in Applicant’s Appeal Brief, the specification, the Voinigescu patent, and the Sullivan article support the conclusion that an “input stage” as recited in claim 15 does not read on the artificial combination of transistors Q3 and Q6 in the Voinigescu reference as alleged by the Examiner. The Voinigescu reference itself distinguishes between an input stage (see col. 14, lines 29-30 referring to transistors Q1 and Q2 in Fig. 9 as an “input pair”) and a mixing quad (see col. 14, lines 31-32) which includes transistors Q3 and Q6.

In an effort to support the overbroad interpretation of a “stage” as simply “an identified subset of a larger circuit,” the Examiner points to a portion of Applicant’s specification that, ironically, supports the opposite conclusion. Specifically, the Examiner points to the input stages of Applicant’s Fig. 26. But these stages *are* embodiments of the input stages that are recited in claim 15—stages that are consistently distinguished from mixer cores in the specification. (See, e.g., page 5, line 27 of the specification referring to the mixer core 24 and input section 26 of Fig. 3.)

In support of his unreasonable interpretation of the claims, the Examiner makes the following statements: (1) Applicant’s own arrangement is merely an intrinsic part of a broader mixer arrangement; and (2) Voinigescu’s mixer is itself an input stage for a receiver. But this tortuous logic would lead to the conclusion that virtually *anything* can be interpreted an input stage. After all, any useful circuit has an output that goes to something else. This interpretation is inconsistent with the cited references that establish what a person of ordinary skill in the art would consider to be an “input stage.”

The Examiner’s interpretation of Mitzlaff is incorrect.

The Examiner alleges that Mitzlaff teaches that AB operation provides “the desired benefit.” But this begs the question of what “the benefit” is. The Examiner has acknowledged that Voinigescu does not disclose class AB input stages, but alleged that

Mitzlaff provides the motivation to modify Voinigescu to use class AB input stages.<sup>1</sup> Mitzlaff, however, does not teach the desirability of using *any* particular type of input stage. Rather, Mitzlaff simply discloses the benefit of driving an input stage into saturation regardless of whether the input stage is class A, class AB, etc. (Col. 2, line 62-66.) Thus, Mitzlaff does not provide any suggestion or motivation to combine the references, and a *prima facie* case of obviousness has not been established.

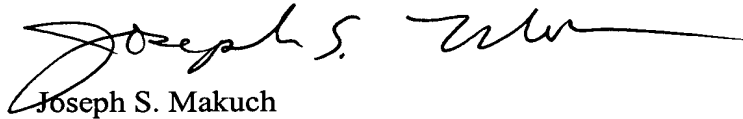
Conclusion

Applicant requests that the rejection of claim 15 be reversed.

**Customer No. 20575**

Respectfully submitted,

MARGER JOHNSON & McCOLLOM, P.C.



Joseph S. Makuch  
Reg. No. 39,286

MARGER JOHNSON & McCOLLOM  
1030 SW Morrison Street  
Portland, OR 97205  
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<sup>1</sup> As discussed in the Appeal Brief, Voinigescu does not teach two input stages arranged as recited in claim 15, and therefore, cannot serve as a basis for modification according to the teachings of Mitzlaff.